Abstract of the Disclosure

A method is described which allows a very large (greater than 100,000) number of applications to communicate logically through a many-to-many multicast cloud on the common carrier Internet efficiently by exploiting characteristics of the applications' data streams which allow substantial message culling as well as more standard routing optimization (conventional multicast and optimization standard to normal Internet routing systems). The method describes the function and type of three types of systems which operate together to implement the method. The first is a network enabled client application, such as a distributed simulation or game, which joins an application cloud or federation and communicates its internal state changes into the cloud via a communication applications programming interface. The second is a lobby manager or broker which accepts entry into a communication cloud or federation and provides information to the federation and the client application for establishing communications between them. And third, is a applications-specific routing system which provides the normal function of routing packets between Internet hosts (client applications running on these hosts), but also allows the routing functions to affected by modules in the router which are associated with the distributed application or simulation being implemented. These application "personalized" routing modules implement substantial application-specific message culling through message omission, rerouting, and other quality of service modifications to substantially reduce overall federation communication traffic and at the same time still effectively implement a point-to-multipoint distributed communications model between clients.